

Notice of Allowability

Application No.

10/784,318

Examiner

LaTanya Bibbins

Applicant(s)

YAMADA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 18 March 2007.
2. ☒ The allowed claim(s) is/are 1.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1. In the remarks filed on March 18, 2007, Applicant amended claim 1, cancelled claims 2 and 3, and submitted arguments for allowability of pending claim 1.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims:

Cancel claims 4-9.

Comments:

This application is in condition for allowance except for the presence of claims 4-9 directed to species non-elected without traverse. Accordingly, claims 4-9 are cancelled.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, none of the references of record, alone or in combination, suggest or fairly teach a tracking error signal generation device, comprising: a splitting and convergence section for splitting an optical beam into a main beam and a sub beam

and converging the main beam and the sub beam onto an optical disc; a two-portion main beam detection section for detecting the main beam reflected by the optical disc; a main beam push-pull signal generation section for generating a main beam push-pull signal based on a differential signal which is output from the two-portion main beam detection section; a two-portion sub beam detection section for detecting the sub beam reflected by the optical disc; a sub beam push-pull signal generation section for generating a sub beam push-pull signal based on a differential signal which is output from the two-portion sub beam detection section; a displacement amount detection section for detecting a displacement amount of the main beam push-pull signal from a reference value based on the main beam push-pull signal and the sub beam push-pull signal; and a tracking error signal generation section for generating a tracking error signal by correcting either the main beam push-pull signal or the sub beam push-pull signal based on the displacement amount detected by the displacement amount detection section, **wherein the displacement amount detection section adds the main beam push-pull signal and the sub beam push-pull signal and detects the addition result as a displacement amount of the main beam push-pull signal from the reference value, and the tracking error signal generation section generates a tracking error signal by correcting the main beam push-pull signal based on a low frequency component of a signal representing the displacement amount detected by the displacement amount detection section** in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of Relevant Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe et al. (US PGPub Number 2003/0090970 A1) discloses an optical disk apparatus which includes an optical head for radiating light beams onto information tracks so that information can be recorded on and/or reproduced from the information tracks. The optical head includes a light source that emits the light beams, a diffraction grating that diffracts the light beams emitted from the light source so that the light beams are divided into a main beam, a first sub-beam and a second sub-beam, an objective lens for converging the main beam, the first sub-beam and the second sub-beam resulting from diffraction by the diffraction grating, respectively, on the information tracks formed on the information medium, and a photodetector that detects a main beam signal, a first sub-beam signal and a second sub-beam signal, respectively, based on the main beam, the first sub-beam and the second sub-beam that have been reflected respectively from the information tracks formed on the information medium. The optical disk apparatus further includes a differential push-pull signal generator that generates a main beam push-pull signal based on the main beam signal detected by

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the photodetector provided in the optical head, generates a sub-beam push-pull signal based on the first and second sub-beam signals detected by the photodetector, and generates a correction differential push-pull signal based on the main beam signal, the first and second sub-beam signals and a predetermined correction coefficient and a correction coefficient adjusting unit that adjusts the predetermined correction coefficient used for generating the correction differential push-pull signal by the differential push-pull signal generator so that the main beam push-pull signal generated by the differential push-pull signal generator becomes equal to the sub-beam push-pull signal in level at a time when the main beam push-pull signal attains a central amplitude level for the main beam push-pull signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LaTanya Bibbins



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER